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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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04/27/2001

Qun Zhao

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30743

7590

05/23/2007

WHITHAM, CURTIS & CHRISTOFFERSON & COOK, P.C.

11491 SUNSET HILLS ROAD

SUITE 340

RESTON, VA 20190

EXAMINER

ZHANG, JUE

ART UNIT

PAPER NUMBER

2838

MAIL DATE

DELIVERY MODE

05/23/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.		Applicant(s)	
	09/843,143		ZHAO ET AL.	
	Examiner	Art Unit		
	Jue Zhang	2838		

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 2-4, 6-14 and 16-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 5, 15 and 20-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 November 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse in the reply filed on 03/27/2007 is acknowledged.
2. Applicant's election without traverse of the species 2, Boost converter with claims of original claim 1, amended claims 5, 15, and newly added claims 20-23 for further examination. Original claims 2-4, 6-14, and 16-19 are withdrawn from current application.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 5, 15, 20-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. Claim 1 recites the limitations "a steering branch having at least one rectifier and one of at least one winding and a capacitor". Claims 5, 15, 20-23, the dependent claims of claim 1, recites the limitations "a capacitor" "a rectifier", and further recites the limitations of "said capacitor" "said rectifier". Claims 22 and 23 further recite the limitations "said center node" "said second inductor". It is unclear which capacitor and

rectifier the limitations "said capacitor" "said rectifier" "said center node" "said second inductor" are refer to. Therefore, the metes and bounds of the claims are unclear.

Applicant's correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 5, 15, 20-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Cross (US Patent. No. 5977754, hereinafter '754).

For claim 1 '754 teaches a DC/DC converter for managing high voltage gain (e.g., boost converter)(Abstract; Fig. 5, Fig. 8), the converter comprising:

an input side (e.g., Vin) having a high tap and a low tap; an output side (e.g., Vin) having a high tap and a low tap; a converter circuit (Fig. 5, 8) interconnecting said input side and said output side; and a steering branch having at least one rectifier (e.g., 206) and one of at least one winding (e.g., 202) and a capacitor (e.g., Co), said steering branch interconnecting said input side with said output side (Fig. 5).

For claim 5 (Currently Amended), 754 teaches the limitation of claim 1 as discussed above. 754 further teaches that said converter circuit is a boost converter (Abstract), said steering branch includes a rectifier (e.g., 206) in series with a winding

winding (e.g., 202), and wherein said winding is connected to said high tap of said input side (e.g., 202 is connected to said high tap of said input side through 204 and 208)(Fig. 5), and said rectifier (206) is connected to said high tap of said output side (Fig. 5).

For claim 15 (Currently Amended), 754 teaches the limitation of claim 1 as discussed above. 754 further teaches that converter circuit is a boost converter (Abstract), and wherein said steering branch includes a capacitor (C0) connected to a rectifier (206), said capacitor having an input node and an output node, and said rectifier having an input node and an output node (Fig. 5), further comprising; a center node (A) joining a first inductor (L) a second inductor (202) and a switch (Q2), said first inductor connected to said high tap of said input side, said second inductor connected to an output rectifier (e.g., 206), and output rectifier connected to said high tap of said output side (Fig. 5).

For claim 20 (Currently Amended), 754 teaches the limitation of claim 1 as discussed above. 754 further teaches that said converter is a boost converter (Abstract) and wherein steering branch includes a rectifier (206) in series with a winding (202).

For claim 21 (New), 754 teaches the limitation of claim 20 as discussed above. 754 further teaches that said winding is connected to said high tap of said input side (e.g., 202 is connected to said high tap of said input side through 204 and 208)(Fig. 5), and said rectifier is connected to said high tap of said output side (Fig. 5).

For claim 22 (New), 754 teaches the limitation of claim 1 as discussed above. 754 further teaches that said converter circuit is a boost converter (Abstract)(Fig. 8),

and wherein said steering branch includes a capacitor (805) connected to a rectifier (809), said capacitor having an input node and an output node, and said rectifier having an input node and an output node (Fig. 8), and wherein said rectifier of said steering branch interconnects said center node (e.g., the node connects 809, 810 and 801) with said second inductor (802), and said capacitor (805) of said steering branch interconnects said high tap of said input side with both said second inductor and said rectifier of said steering branch (Fig. 8).

For claim 23 (New), 754 teaches the limitation of claim 1 as discussed above. 754 further teaches that said converter circuit is a boost converter (Abstract), and wherein said steering branch includes a capacitor (210) connected to a rectifier (D2), said capacitor (210) having an input node and an output node, and said rectifier having an input node and an output node (Fig. 5), and wherein said rectifier of said steering branch interconnects said center node (A) with said second inductor (L), and said capacitor (210) of said steering branch interconnects both of said low tap of said input side and said low tap of said output side with both of said rectifier (D2) of said steering branch and said second inductor (L)(Fig. 5).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jue Zhang whose telephone number is (571) 270-1263. The examiner can normally be reached on M-TH 8:00AM-5:00PM EST, Other F 8:00AM-4:00PM EST

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Karl Easthom can be reached on (571) 272-1989. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



JZ



KARL EASTHOM
SUPERVISORY PATENT EXAMINER